

Application Serial No: 10/577,269
Responsive to the Office Action mailed on: March 30, 2010

REMARKS

This Amendment is in response to the Office Action mailed on March 30, 2010. Claim 1 is amended and is supported, for example, in the specification on page 9, lines 13-17. No new matter is added. Claims 1-12 are pending.

§103 Rejections:

Claims 1-6 and 8-12 are rejected as being unpatentable over Furubayashi (US Patent No. 6,427,455). This rejection is traversed.

Claim 1 is directed to a cooling device that recites, among other features, $a/D = 1/2$ to $1/4$ is satisfied so that an air flow is generated that comes from a side of the cooling chamber, moves around both lateral surfaces and a back surface of the cooler, and flows into the cooling chamber, whereby warmed air flowing from the side of the cooling chamber exchanges heat with ambient air of the cooler that has been cooled by the cooler, and then flows toward the cooling chamber.

Furubayashi does not teach or suggest these features. The rejection asserts that the feature of $a/D = 1/2$ to $1/4$ is obvious in light of Furubayashi, as it is obvious to obtain optimum values. However, the feature of $a/D = 1/2$ to $1/4$ combined with the other features of claim 1 result in properties of a cooling device not present or contemplated in the cooling device Furubayashi.

Particularly, the above ratio of claim 1 results in generating an air flow that comes from a side of the cooling chamber, moves around both lateral surfaces and a back surface of the cooler, and flows into the cooling chamber, whereby warmed air flowing from the side of the cooling chamber exchanges heat with ambient air of the cooler that has been cooled by the cooler, and then the air flows toward the cooling chamber. In other words, the warmed air does not directly exchange heat with the cooler, but exchanges heat with the air that is present around the cooler and has been cooled by the cooler. These features result in avoiding frost deposition on the cooler.

In contrast, Furubayashi does not contemplate a configuration that causes heat exchange between warm air and cold air around the cooler. Particularly, Furubayashi does not contemplate generating an air flow that comes from a side of the cooling chamber, moves around both lateral surfaces and a back surface of the cooler, and flows

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into the cooling chamber. Further, Furubayashi does not contemplate warmed air flowing from the side of the cooling chamber exchanging heat with ambient air of the cooler that has been cooled by the cooler, and the warmed air then flowing toward the cooling chamber.

Thus, the condition of $a/D = 1/2$ to $1/4$ is not simply a rearranging of parts to obtain optimum values, as this feature results in properties of a cooling device not present or contemplated in the cooling device Furubayashi.

For at least these reasons claim 1 is not suggested by Furubayashi and should be allowed. Claims 2-6 and 8-12 depend from claim 1 and should be allowed for at least the same reasons.

Claim 7 is rejected as being unpatentable over Furubayashi in view of Symko (US Patent No. 6,574,968). This rejection is traversed. Claim 7 depends from claim 1 and should be allowed for at least the same reasons discussed above. Applicants do not concede the correctness of this rejection.

Conclusion:

Applicants respectfully assert that the pending claims are in condition for allowance. If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' primary attorney-of record, Douglas P. Mueller (Reg. No. 30,300), at (612) 455-3804.

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PATENT TRADEMARK OFFICE

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Respectfully submitted,

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